

- [038] It is possible, according to the invention, to provide in each fit point of the multi-speed transmission free wheels E, for example, between one shaft and the housing or in order to connect two shafts if that is the case.
- [039] It is also possible by the inventive design to situate on the same side of the transmission or of the housing input drive An and output drive Ab, preferably for transverse, front, longitudinal, rear longitudinal or all-wheel arrangements. In addition, an axle differential and/or a transfer differential D can be placed on the input side or on the output side.
- [040] Within the scope of an advantageous development, the input shaft 1 can be separated, as needed, from a prime mover by a coupling element B, there being used as coupling element a hydrodynamic converter, a hydraulic clutch, a dry starting clutch, a wet starting clutch, a magnetic powder clutch or a centrifugal clutch. It is also possible to situate such a starting element in power flow direction behind the transmission in which case the input shaft 1 is permanently connected with the crankshaft C of the engine E. According to the invention, it is also possible to start off by means of one shifting element of the transmission. As starting element can be preferably used the brake 04 which is activated both in the first forward gear and in the first reverse gear.
- [041] The inventive multi-speed transmission also enables to situate a torsional vibration damper V between engine and transmission.
- [042] Within the scope of another embodiment (not shown) of the invention, there can be placed upon each shaft, preferably upon the input shaft 1 or the output shaft 2, one wear-free brake W such as a hydraulic or electric retarder or the like which is especially important for use in commercial vehicles. For driving additional units, it is also possible to provide a power takeoff P upon each shaft, preferably upon the input shaft 1 or the output shaft 2.
- [044] Another advantage of the multi-speed transmission introduced here is that upon each shaft, one electric machine N can be mounted as generator and/or as added prime mover.

1-42. (CANCELED)

43. (NEW) A multi-speed transmission of planetary gear design for a motor vehicle comprising:

one input shaft (1), one output shaft (2) and a third, fourth, fifth, sixth and seventh rotatable shafts (3, 4, 5, 6, 7) located in a housing (G);

a first, second and third one-spider planetary gear sets (P1, P2, P3);

a first, second, third, fourth, fifth and sixth shifting elements (03, 04, 14, 26, 36, 57) the selective engagement of which generates different reduction ratios between the input shaft (1) and the output shaft (2) so that seven forward gears and one reverse gear can be implemented; and

wherein an input drive comprises the first shaft (1) permanently connected with a sun gear of the first planetary gear set (P1) and an output drive comprises the output shaft (2) permanently connected with a sun gear of the third planetary gear set (P3), the set (P1) and a ring gear of the second planetary gear set (P2), and the fifth rotatable shaft (5) is permanently connected with the second planetary gear set (P2) and a ring gear of the third planetary gear set (P3), the sixth rotatable shaft (6) is permanently connected with the second planetary gear set (P2), the seventh rotatable shaft (7) is permanently connected with a spider of the first planetary gear set (P1), the third rotatable shaft (3) is attachable to the housing (G) by the first shifting element (03), the fourth shaft (4) is attachable to the housing (G) by the second shifting element (04), the third shifting element (14) interconnects the input shaft (1) and the fourth rotatable shaft (4), the fourth shifting element (26) detachably interconnects the output shaft (2) and the sixth rotatable shaft (6), the fifth shifting element (36) detachably interconnects the third shaft (3) and the sixth shaft (6) and the sixth shifting element (57) detachably interconnects the fifth rotatable shaft (5) and the seventh rotatable shaft (7).

44. (NEW) The multi-speed transmission according to claim 43, wherein the fifth rotatable shaft (5) is permanently connected with a sun gear of the second planetary gear set (P2) and the ring gear of the third planetary gear set (P3) and the sixth rotatable shaft (6) is permanently connected with a spider of the second planetary gear set (P2).

45. (NEW) The multi-speed transmission according to claim 43, wherein the fifth rotatable shaft (5) is permanently connected with a spider of the second planetary gear set (P2) and the ring gear of the third planetary gear set (P3), and the sixth rotatable shaft (6) is permanently connected with a sun gear of the second planetary gear set (P2).

46. (NEW) The multi-speed transmission according to claim 43, wherein the first planetary gear set (P1) and the third planetary gear set (P3) are designed as reduction planetary gear sets and the second planetary gear set (P2) is designed as an increasing planetary gear set.

47. (NEW) The multi-speed transmission according to claim 43, wherein free wheels are provided between at least one of the first, second, third, fourth, fifth, sixth and seventh shafts (1, 2, 3, 4, 5, 6, 7) and the housing (G).

48. (NEW) The multi-speed transmission according to claim 43, wherein the input drive and the output drive are provided on a same side of the housing.

49. (NEW) The multi-speed transmission according to claim 43, wherein at least an axle and a transfer differential are connected with at least one of the input drive and the output drive.

50. (NEW) The multi-speed transmission according to claim 43, wherein the input shaft (1) can be separated from a prime mover by a coupling element.

51. (NEW) The multi-speed transmission according to claim 50, wherein the coupling element is one of a hydrodynamic converter, a hydraulic clutch, a dry starting clutch, a wet starting clutch, a magnetic powder clutch and a centrifugal clutch.

52. (NEW) The multi-speed transmission according to claim 51, wherein an external starting element can be disposed in a power flow direction behind the transmission, the input shaft (1) being fixedly connected with a crank shaft of an engine.

53. (NEW) The multi-speed transmission according to claim 43, wherein a start-off of the vehicle results by selecting one of the shifting elements of the transmission and the input shaft (1) being connected with a crankshaft of an engine.

54. (NEW) The multi-speed transmission according to claim 53, wherein the selected shifting element is one of the fourth clutch (57) and the second brake (04).

55. (NEW) The multi-speed transmission according to claim 43, wherein a torsional vibration damper is positioned between an engine and the transmission.

56. (NEW) The multi-speed transmission according to claim 43, wherein one wear-free brake can be situated upon each shaft.

57. (NEW) The multi-speed transmission according to claim 43, wherein a power takeoff can be placed upon a selected rotatable shaft for an additional output from the transmission.

58. (NEW) The multi-speed transmission according to claim 57, wherein the power takeoff can be situated on at least one of the input shaft (1) and the output shaft (2).

59. (NEW) The multi-speed transmission according to claim 43, wherein the shifting elements are designed as one of power shiftable clutches and brakes.

60. (NEW) The multi-speed transmission according to claim 359, wherein the shifting elements are at least one of multi-disc clutches, band brakes and tapered clutches.

61. (NEW) The multi-speed transmission according to claim 43, wherein the shifting elements are at least one of force-locking brakes and clutches.

62. (NEW) The multi-speed transmission according to claim 43, wherein on each shaft one electric machine can be mounted as one or more of a generator and an added prime mover.